

Serial No. 09/484,316
Response dated May 12, 2004
Reply to Office Action of February 12, 2004

Docket No. 5000-4723

REMARKS

Claims 1-19 are pending in this application. Claims 1 and 19 are amended herein.

Applicants submit that no new matter has been added by way of this amendment. Applicants respectfully request entry of the above amendments. Applicants respectfully request reconsideration of the above-identified application, in view of the above amendment and following remarks.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 14 and 18 are rejected under 35 U.S.C. § 102(e), as being anticipated by Shimizu, et al. (US Patent No. 6,275,754). Applicants respectfully submit that independent claims 1, 14 and 18 are not anticipated by the Shimizu, et al. patent, in view of the above amendment and the following remarks.

1. Amended independent claim 1 recites, *inter alia*, “wherein the marking provides a driver with at least first and second indications, the first indication which is a fixed reference guide displaying vehicle width projecting behind the vehicle and the second indication of a prospective path of the vehicle corresponding to the angle of the steered wheels.” Applicants respectfully submit that the Shimizu, et al. patent does not teach or suggest a first indication which is a fixed reference guide displaying vehicle width projecting behind the vehicle or a second indication of a prospective path corresponding to the angle of the steered wheels, as recited in independent claim 1.

The Office Action asserts, “(figs. 12 and 16, shows that the width of the vehicle “B” being considered) and the second indication ...figs. 3a-3c, 4 and 10., col. 5, lines 65 – col. 6, lines 15 shows the first and second indication and prospective path of the vehicle corresponding to the angle of the steered wheels on the display).” (See, Office Action, page 3, lines 1-9.). However, the vehicle width “B” shown in Figs. 12 and 16 is merely illustrated as part of the figures themselves for explaining a method for determining an optimal parking position (See, Col. 4, lines 13-15 and 24-26). However, the vehicle width “B” is not displayed on a display device 11. Therefore, Shimizu, et al. does not disclose a first indication (20), which is a fixed reference guide as recited in claim 1.

Further, Shimizu, et al. teaches, “Specifically, FIG. 3A shows the picture images on the operational stage display device 11....the position of the subject vehicle shown by ●, a parking position shown by X, a shifting position (a position at which the forward movement of the vehicle is switched over to the backward movement) shown by O....” (See, Col. 6, lines 2-9). Moreover, Shimizu et al. indicates that FIGs. 3A-3C are “illustrations for explaining the operation in a back parking/left mode.” (See, Col. 3, lines 52-54.). Applicants respectfully submit that the only elements shown to the driver in Figs. 3A-3C are images around the vehicle based on the signals from the eight object detecting means S₆ as obstacles, a ●, a O, and a projected parking path. Therefore, Shimizu, et al. does not teach or suggest displaying a first indication (20) fixed reference guide displaying vehicle width projecting behind the vehicle, as recited in independent claim 1.

Also, the Shimizu, et al. patent discloses a presumed path of the subject vehicle that is projected on the display device 11. However, the presumed path is calculated based on the signals from the eight object detecting means S_6 (See, Col. 5, line 66 – Col. 6, line 11). Shimizu, et al. discloses a sonar or radar system as these object detecting means S_6 (See, Col. 5, lines 4-5) and does not detect the steered angle of the steered wheels. The Shimizu, et al. patent does not disclose that the presumed path is calculated based on the angle of the steered wheels. That is, in the Shimizu, et al. patent, the presumed path corresponds to the signals from the sonar or radar system, but does not correspond to the angle of the steered wheels. Therefore, the Shimizu, et al. patent does not disclose a second indication (17) of a prospective path of the vehicle, which corresponds to the angle of the steered wheels, as recited in claim 1.

The Shimizu, et al. patent discloses an automatic parking control system in which the control section 22 controls the steering actuator 7, which actuates the steering wheel, so that the vehicle is automatically moved along the assumed path calculated based on the signals from the eight object detecting means S_6 . In the Shimizu patent, if the driver has operated the steering wheel during the automatic parking control, the automatic parking control is canceled (See, Col. 7, lines 31-46). In contrast, the claimed invention recites a steering aiding system in which the driver operates the steering wheel while looking at the display, which simultaneously displays the first and second indications and the rear view image captured by the camera. Thus, the system disclosed in the Shimizu, et al. patent is different from that of the claimed invention.

Accordingly, because Shimizu, et al. does not teach or suggest a steering aiding apparatus including a first and second indication as recited in independent claim 1, Applicants

respectfully submit that the cited reference does not anticipate either independent claim 1 or the claims directly or indirectly therefrom.

2. Independent claim 14, recites:

a display control unit for displaying a guide marking that is fixed at a predetermined position with respect to the monitor screen for aiding a driver in parking, the control unit displaying the guide marking and the image simultaneously on the monitor when the vehicle moves in reverse, wherein the parallel parking is completed by causing the marking to coincide with a target point in the image, followed by backing while keeping the steered wheels turned at their maximum angle.

In the claimed invention, to complete parallel parking, a driver causes the guide marking (21), which is fixed at a predetermined position with respect to the monitor screen, to coincide with a target point in the image, and then moves the vehicle in reverse while keeping the steered wheels turned at their maximum angle (See, Specification page 11, line 30 - page 12, line 10, as well as Fig. 3 in the application).

The Office Action asserts, "(i.e., Figs. 3, 14 and 18, and the graph on the bottom of the Fig. 7, shows the traveling distance...)" (See, Office Action, page 3, lines 10-15).

However, Shimizu, et al.'s Fig. 3 does not show parallel parking. Figs. 14 and 18 of the Shimizu, et al. patent show parallel parking, but do not teach or suggest the claimed features described above. The graph on the bottom of Fig. 7 shows the relationship between the vehicle traveling distance and the reference steering angle of the wheel. In Shimizu, et al. during automatic parking control, the control section 22 controls the steering actuator 7 based on the data represented by the graph so that the steering angle of the wheel is equalized to the reference

steering angle (See, col. 9, lines 5-23). Moreover, Shimizu, et al.'s automatic steering system, only displays on a screen: obstacles, a ●, a ○, and a projected parking path. The Shimizu reference does not teach or suggest causing a displayed guide marking to coincide with a target point in the image.

Accordingly, because Shimizu, et al. does not teach or suggest a guide marking as recited in independent claim 14, Applicants respectfully submit that the cited reference does not anticipate independent claim 14, dependent claim 18 and the other dependent claims directly or indirectly therefrom. Therefore, Applicants respectfully request withdrawal of this ground of rejections.

Claim Rejections – 35 U.S.C. § 103

1. Claims 2-13 and 15-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimizu, et al., in view of Myers (U.S. Patent No. 4,214,266). Applicants respectfully submit that elements recited in independent claims 1 and 14, and the claims directly or indirectly dependent therefrom are patentably distinct from the cited references, taken either alone or in combination.

Applicants respectfully submit that for at least the reasons discussed above, claims 2-13 and 15-17 are patentably distinct from the cited references taken alone or in combination. Specifically, Applicants submit that the Myers patent does not remedy the deficiencies identified above in the Shimizu patent with regard to independent claims 1 and 14. The Myers patent teaches a scale used as a target, as shown in FIG. 3. It does not display a guide marking displaying the vehicle width or using the guide marking to coincide with a target point in the

image for parallel parking. Accordingly, for at least these reasons, Applicants respectfully submit that claim 2-13 and 15-17 are patentably distinct from the cited references, taken alone or in combination. Therefore, Applicants respectfully request withdrawal of these grounds of rejection.

2. Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimizu, et al., in view of Franke, et al. (US Patent No. 5,485,378). Applicants respectfully submit that independent claim 19 is patentably distinct from the cited references either alone or in combination.

Independent claim 19 recites, *inter alia*, “superposing and displaying a guide marking for aiding steering upon the image, wherein the guide marking provides a driver with a first indication, which is a fixed reference guide displaying vehicle width projecting behind the vehicle and a second indication of a prospective path of the vehicle...” Applicants submit that as discussed above, the Shimizu, et al. patent does not teach or suggest a first indication which is a fixed reference guide displaying vehicle width projecting behind the vehicle and a second indication of a prospective path based on the angle of the steered wheels.

The Shimizu, et al. patent simply discloses displaying: obstacles, a ●, a ○, and a projected parking path. Applicants respectfully submit that displaying a first indication, which is a fixed reference guide, displaying vehicle width projecting behind the vehicle and a second indication of a prospective path, as recited in independent claim 19, is patentably distinct from displaying obstacles, two circles and a projected parking path as taught in Shimizu, et al.

Furthermore, Applicants respectfully submit that the Franke, et al. patent does not

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remedy these deficiencies, it merely discloses a "sensor (such as a camera) (1), for detecting the position of the vehicle [that] visually detects the lane (2)...". (See, Col. 4, lines 2-5.)

Accordingly, Applicants submit that for at least these reasons, independent claim 19 is patentably distinct from the cited references taken alone or in combination. Therefore, Applicants respectfully request withdrawal of these grounds of rejection.

CONCLUSION

It is now believed that all pending claims are in condition for allowance. In view of these remarks, an early and favorable reconsideration is respectfully requested.

Respectfully submitted,
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